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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/562,186

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Anders Hallin

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PEARNE & GORDON LLP
1801 EAST 9TH STREET
SUITE 1200
CLEVELAND, OH 44114-3108

EXAMINER

RAHIM, AZIM

ART UNIT

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3744

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PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/562,186	HALLIN, ANDERS	
	Examiner	Art Unit	
	AZIM RAHIM	3744	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 24 February 2009.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-10 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-10 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

3. Claims 1-5 and 9-10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Koepke (US 2,026,838) in view of Kogel et al. (Kogel, US 2,773,359).

Regarding claims 1 and 3, Koepke teaches an absorption refrigerator (referring to figure 1) including a cabinet having outer walls (the combination of compartments 2 and 11) encasing a low temperature storage compartment (2) and a higher temperature storage compartment (11), said compartments being separated by a partition wall (55), and an absorption refrigerating system including an evaporator tube (4 and 15) in which a refrigeration medium flows from an upstream end to a downstream end of the evaporator tube (see page 3, column 2, lines 6-18), and

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which evaporator tube comprises a first tube section (4) which is arranged to absorb heat from the low temperature compartment, a second tube section (15), which is arranged to absorb heat from the higher temperature compartment (see page 3, column 2, lines 6-18), wherein the first and second tube sections are connected in series (illustrated in figure 1), and within the evaporator tube, the first tube section is arranged upstream of the second tube section (see page 3, column 2, lines 6-18). Further taught is the option of connecting an ice compartment to the adsorption refrigerator (see page 1, column 1, lines 38-40).

Koepke fails to explicitly teach a door, an ice fabrication device, a third tube section (23) being arranged to absorb heat from the ice fabrication device, and said third tube section (23) being arranged to predominantly absorb heat from the ice fabrication device by heat conduction and, within the evaporator tube, the third tube section (23) is arranged downstream of said first tube section (21) and upstream of said second tube section (22) and in that the ice fabrication device is exposed to air circulating in the low temperature compartment or in the higher temperature compartment (10), wherein means are provided for melting frost generated by humidity in said low temperature compartment (9) or said higher temperature compartment (10) respectively.

Kogel teaches an absorption refrigerator (referring to figures 1-3) that includes a door that encloses the refrigerator cabinet (see column 3, lines 42-47), an evaporator tube (10) that includes a lower temperature section (10a) a higher temperature section (10b), wherein both sections are connected in series (illustrated in figure 1). Further taught is wherein the evaporator is disposed inside a chamber (43), and the lower temperature evaporator is arranged adjacent a freezing compartment (42) used for placement of mater to be frozen (see column 3, lines 47-55),

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and wherein refrigerant passes through the lower temperature evaporator and then through the higher temperature evaporator (see column 3, lines 14-21).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to have modified the refrigerator of Koepke to include a door as taught by Kogel in order to allow a user easy access to the interior of the refrigerating compartment and for the prevention of excess evacuation of the cool air of the compartment, thus reducing energy costs.

Also, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have modified the refrigerator of Koepke to include an evaporator tube section for the fabrication of ice as taught by Kogel in order to store frozen items inside the refrigerating compartment, thus enabling a user to store a variety of food items inside the refrigerating compartment.

Regarding claim 2, Kogel teaches that the higher temperature evaporator and the lower temperature tube sections are arranged in a single compartment (illustrated in figures 2 and 3), and Koepke teaches that the second tube section is arranged in the higher temperature compartment (see page 3, column 2, lines 6-17; chamber ii is the higher temperature compartment due to some of the refrigerant having already been evaporated in evaporator coil 4).

Regarding claim 4, Kogel teaches that the upstream end of the lower temperature tube section is connected directly to the downstream end of the higher temperature tube section (as illustrated in figure 1, the refrigeration cycle is interconnected).

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Regarding claim 5, Koepke as modified by Kogel teaches that the upstream end of the second tube section as taught by Koepke would be connected to the downstream end of the lower temperature compartment evaporator tube section of Kogel through a passive gas heat exchange tube section (element 39 of Koepke; the whole of the absorption refrigerating system would be interconnected), which is arranged inside one (39) of the cabinet (refer to figure 1 of both Koepke and Kogel).

Regarding claim 9, Koepke as modified by Kogel teach all the limitations as described in claim 1, and Koepke further teaches that the absorption refrigerating system further including a boiler (8).

Koepke fails to explicitly teach a condenser, and an absorber.

The general concept of providing a condenser and an absorber in an absorption refrigerator falls within the realm of common knowledge as obvious mechanical expedient as illustrated by Kogel which teaches the connection of an absorber coil (17) and a condenser 28 to an absorption refrigeration system (illustrated in figure 1), and one of ordinary skill in the art would have been motivated to connect a condenser and an absorber to an absorption refrigerator in order to provide necessary condensation and absorption of a refrigerant, thus providing necessary cooling efficiency.

Regarding claim 10, Kogel teaches that the upstream end of the evaporator tube connected to the condenser and the downstream end of the evaporator tube connected to the absorber (illustrated in figure 1).

4. Claims 6 and 7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Koepke as modified by Kogel as applied to claim 1 above, and further in view of Schumacher (Schumacher '198, US 2,728,198).

Regarding claims 6 and 7, Koepke as modified by Kogel teach all the limitations as described above, but fail to teach that the first tube section includes two non-coaxial tube portions, the axis of which together define a general extension plane of the first tube section and the third tube section includes two non-coaxial tube portions, the axis of which together define a general extension plane of the third tube section, whereby said general extension plane of the first tube section is essentially perpendicular to the general extension plane of the third tube section, and wherein the general extension plane of the first tube section is essentially vertical and generally parallel to the general extension plane of the partition wall.

Schumacher '198 teaches a plural temperature refrigerating system (referring to figures 1 and 2) that includes a lower temperature compartment (2), a higher temperature compartment (3) and a device suitable for ice fabrication (see column 2, lines 57-61; freezing trays), wherein the a first tube section (10) is positioned adjacent the lower temperature compartment (illustrated in figures 1 and 2) a second tube section (9) arranged adjacent the higher temperature compartment (illustrated in figures 1 and 2), and a third tube section (15) arranged adjacent the ice fabrication compartment (illustrated in figures 1 and 2). Further taught is that the first tube section including two non-coaxial tube portions (multiple bent tube portions shown), the axis of which together define a general extension plane of the first tube section (illustrated in figure 2) and the third tube

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section includes two non-coaxial tube portions (multiple bent tube portions shown), the axis of which together define a general extension plane of the third tube section (illustrated in figure 2), whereby said general extension plane of the first tube section is essentially perpendicular to the general extension plane of the third tube section (portion of tube section 16 is perpendicular to section 15), and the general extension plane of the first tube section being essentially vertical and generally parallel to the general extension plane of the partition wall (section of 16 is parallel to partition wall disposed between 2 and 3).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to have modified the refrigerator of Koepke as modified by Kogel to include the arrangement of the first, second and third tube sections as taught by Schumacher '198 in order to maximize the surface area covered by the evaporator tube, thus increasing cooling efficiency.

5. Claim 8 is rejected under 35 U.S.C. 103(a) as being unpatentable over Koepke as modified by Kogel as applied to claim 1 above, and further in view of Schumacher (Schumacher '862, US 3,803,862).

Regarding claim 8, Koepke as modified by Kogel teach all the limitations as described above, but fail to teach that the ice fabrication device includes heating means for effecting partial melting of the ice for facilitating harvesting of the ice.

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Schumacher '862 teaches the limitation of providing an ice fabrication device (24) including heating means for effecting partial melting of the ice for facilitating harvesting of the ice (col. 4 lines 50-65).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to have modified the refrigerator of Schumacher '198 to include the ice fabrication device including heating means for effecting partial melting of the ice for facilitating harvesting of the ice as taught by Schumacher '862 in order to advantageously automatically dispense ice, thus providing greater convenience for a user.

Response to Arguments

6. Applicant's arguments with respect to claims 1-10 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to AZIM RAHIM whose telephone number is (571) 270-1998. The examiner can normally be reached on Monday - Thursday 7am - 3pm EST and Friday 7am - 9:30am EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Frantz Jules can be reached on 571-272-6681. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/A. R./

Examiner, Art Unit 3744

4/1/2009

/Frantz F. Jules/

Supervisory Patent Examiner, Art Unit 3744